DOCUMENT RESUME

ED 085 127 24 RC 007 470

AUTHOR	Henderson, George
TITLE	National Assessment and Rural Education.
INSTITUTION	New Mexico State Univ., University Park. ERIC Clearinghouse on Rural Education and Small Schools.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
BUREAU NO	BR-6-2469
PUB DATE	Dec 73
CONTRACT	OEC-1-6-062469-1574(10)
NOTE	50p.
AVAILABLE FROM	National Educational Laboratory Publishers, Inc., 813 Airport Boulevard, Austin, TX 78702 (Stock Number EC-004, $2.50)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Academic Achievement; Citizenship; *Educational Accountability; Literature; *National Intelligence Norm; Needs; Reading Achievement; *Rural Education; Science Education; *Student Evaluation; Writing Skills
IDENTIFIERS	NAEP; *National Assessment of Educational Progress

ABSTRACT

National Assessment of Educational Progress (NAEP) became a continuing project of the Education Commission of the States on July 1, 1969. Its primary aim is to obtain information on how well educated young people are and where the country's education problem areas lie. NAEP exercises have been constructed to provide information by 3 divisions: (1) what all or almost all children are learning, (2) what the most advanced are learning, and (3) what the middle or "average" children are learning. The accumulated test results will serve the purpose of differentiated assessment of the overall progress of education. NAEP defined 192 separate populations for testing by the following subdivisions: sex, race, geographic region, age group, community size and type, and socioeconomic level. This report discusses rural education and national assessment for reading, writing, citizenship, science, and literature. Objectives, samples of test questions used, test results, and implications for rural schools are discussed. A brief historical overview; the assessment procedures and schedule; and the social and psychological, cultural, economic, political, and military implications are also covered. (NQ)

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NATIONAL ASSESSMENT AND RURAL EDUCATION

by

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The University of Oklahoma

ERIC/CRESS

December 1973

For Sale By
National Educational Laboratory Publishers, Inc.
813 Airport Boulevard, Austin, Texas 78702
Stock Number EC-004
Price - $2.50

RC007470

December 1973

EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

CLEARINGHOUSE ON RURAL EDUCATION AND SMALL SCHOOLS (CRESS)

New Mexico State University
Box 3AP
Las Cruces, New Mexico 88003

The material in this publication was prepared pursuant to a contract with the National Institute of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgement in professional and technical matters. Prior to publication, the manuscript was submitted to the Rural Education Association for critical review and determination of professional competence. This publication has met such standards. Points of view or opinions, however, do not necessarily represent the official view or opinions of either the Rural Education Association or the National Institute of Education.

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BRIEF HISTORICAL OVERVIEW

According to its original charter of 1867, one of the duties of the U.S. Office of Education (USOE) was the determination of educational progress in the states comprising the Union. Francis Keppel, U.S. Commissioner of Education from 1962-65, became concerned with this responsibility and directed his attention to the problem of ascertaining how much had been learned and what progress was being made in education in the United States. In the summer of 1963, during Keppel's tenure, Ralph W. Tyler, Director of the Center for the Advanced Study of Behavioral Sciences, Stanford, California, was asked by leaders of education to prepare a memorandum exploring the possibility of assessing the progress of education nationally.

This memorandum was reviewed in December 1963 by a conference of educational measurement personnel who concluded that such an assessment was indeed feasible and worthwhile. In January 1964, the memorandum prepared by Mr. Tyler was placed before national educational leaders, who discussed from their perspectives the problems and benefits which might accrue in developing a procedure for national assessment. These leaders concluded that despite the potential for misuse which might inhere in such an appraisal, the need for comprehensive information was so great that the project should be undertaken. Reflecting their sentiments, a comment in American Education states that "the schools and colleges are operating a $50 billion enterprise in ignorance of the most elemental and basic evaluative information" [Alex Mood, 1967: p. 12].

In July 1964, after numerous conferences and discussions, John W. Gardner, President of the Carnegie Corporation, convened a distinguished group of Americans to form an 11-member Exploratory Committee on Assessing the Progress of Education (ECAPE); and Ralph Tyler became its chairman. The conclusions of this committee resulted in the decision to seek a plan to provide the answer to two questions: (1) What are the current

educational attainments of our population? and (2) What change is there in the level of attainments over a period of time?

Four years of work financed by private foundations went into defining goals and developing measuring instruments to answer these questions. The Ford Foundation's Fund for Advancement of Education contributed financial support for ECAPE to continue its studies. The Federal Government did not provide funds for ECAPE, but it did award a $100,000 grant to the University of Wisconsin to hold conferences of educators and lay people to review and respond to the progress toward national assessment that had been made. In four years, ECAPE had developed a detailed plan for assessment and had sponsored preparation of texts and exercises.

For several years, lack of approval by the American Association of School Administrators hampered the progress of the assessment program. Their criticism was responsible in part for reorganization of the national assessment committee. The Committee on Assessment of Progress in Education (CAPE) became the successor to ECAPE. The chairman of the new committee was George B. Brain, Dean of the College of Education, Washington State University. More in keeping with the will of the school administrators' association, this newly assembled group "had 25 members, one-third elected from major educational organizations, plus elected representatives from organizations of public officials, and the general public" [Stevens, 1969: p. 20].

On 1 July 1969, the Education Commission of the States (ECS) took charge of the entire project, including the assets of the predecessor organization, CAPE, which had only been established in 1968. To advance their work, ECS employed James A. Hazlett, a former superintendent of schools in Kansas City, Missouri. The official title of the project now became National Assessment of Educational Progress (NAEP). NAEP has become a continuing project of the ECS, funded principally by the National Center for Educational Research and Development. Long range

plans call for an expenditure of between four and five million dollars annually by the U.S. Office of Education for the purpose of gathering and compiling the data necessary for national assessment.

EXPLANATION OF ASSESSMENT PROCEDURES AND DEFINITION OF TERMS

National assessment in education is briefly defined by Finley and Berdie, in The National Assessment Approach to Exercise Development (1970), as "a plan to systematically sample the skills, knowledges, and attitudes of youth and to report the results to all people involved directly or indirectly in the ongoing process of improving education" [p. 3]. For such a plan to be meaningful, it was determined that objectives had to be written that were acceptable to three groups of people: subject matter specialists, educators, and citizens. Subject matter specialists had to consider the objectives authentic from the points of view of their respective disciplines. Educators had to recognize the objectives as desirable goals for learning, and ones which schools were actively striving to achieve. Citizens had to agree that the objectives were important for young people to know, feel, or understand.

The primary aim of national assessment is to obtain a balanced and adequate picture of how well educated our young people are and of where the country's education problem areas lie. NAEP exercises have been constructed to provide information by three divisions: (1) what all or almost all children are learning, (2) what the most advanced are learning, and (3) what the middle or "average" children are learning. The American Institute of Research, Educational Testing Service, Psychological Corporation, and Science Research Associates have participated in the development of the exercises. The accumulated results of these tests, it is hoped, will serve the purpose of differentiated assessment of the overall progress of education.

Since populations within the country vary among themselves and thus present different degrees and kinds of progress and problems, a national assessment cannot be meaningful unless testing is done by particular populations that need to be treated separately. NAEP defined 192 separate populations for testing by the following subdivisions: sex, race, geographic region, age group, community size and type, and socioeconomic level. About five percent of the individuals in each of the four age levels were determined to be sufficient to provide probability samples to represent each category. Opinion polls have established this method as a valid means of representing large populations. Since the exercises are intended to reflect what has been learned by representative groups within the total population rather than individual achievement, no individual will take more than a small segment of the exercises.

Taking part in the assessment will be some 120,000 to 140,000 examinees—to be selected by random sample. As a guideline, it was established that not more than 25 examinees would participate from a single school. Tapes will be used to present a large portion of the instructions and exercises. Tryouts indicated more students answered with this method than when they read the exercises themselves. Both cognitive and affective realms will be assessed.

Race is reported by black and non-black; sex is reported by male and female; geographic region is classified under four subdivisions—Northeast, Southeast, Central, and West; age groups are divided into four categories—9-year-olds, 13-year-olds, 17-year-olds, and young adults; community size and type includes extreme rural, extreme inner city, extreme affluent suburb, rest of big city, suburban fringe, medium city, and small city. Some reports include only a portion of these categories in their statistical compilations. Some reports also include parents' education, using four levels: less than or equal to eighth grade, more than eighth grade but not high school graduate, graduate from high school, and some formal education beyond high school.

The national assessment procedures have been established in the hope that, by assembling information about the knowledge and skills of young Americans, an index of what young people actually know will be provided. It is also hoped that, through interval testing, changes in skills and knowledge will be registered as they occur and that the statistical raw material will be furnished to improve the quality of education in the nation.

With the release of test data, commentaries on the national assessment of education continue to occupy a prominent place in a number of academic journals. As a result, a storm of controversy continues to rage over this program. Proponents say national assessment is a necessity in the rapidly expanded systems of education existing today. Opponents say it will be an unnecessary hindrance and will create many problems throughout the school systems in America.

ARGUMENTS FOR NATIONAL ASSESSMENT

Since the validity of the national assessment results is largely dependent upon the motivations and objectives which prompted the study, this section will concern itself with the arguments set forth by those who support NAEP.

In the American Association of School Administrators' "Official Report" (1966b), Ralph Tyler contends that there is a need "to assess the educational progress of larger populations in order to provide the public with dependable information to help in the understanding of educational problems and needs and to guide in efforts to develop sound public policy regarding education" [p. 9].

The method chosen for evaluation is also advanced as another asset by defenders of national assessment. Using the opinion poll sampling method, 192 separate populations will be evaluated. To have dependable, categorized information—such as, extreme-rural, urban; black, non-black; Southeast, West—

will assist greatly in curriculum planning and fund and material allocation decisions.

Because the opinion poll sampling method will be used, each respondent will take only a fraction of the assessment exercises rather than the full battery required by the individual standardized tests which are now in wide use. The NAEP method requires less time from the teacher who releases the child from his class for exercises and demands less time of the participating child himself. In "Let's Clear the Air on Assessment" (1966a), Tyler commented further that "since the assessment does not require that all participants be in class, the exercises to be used are not limited to usual test items. Interviews and observational procedures are also to be employed to learn more of interests, habits, and practices that have been learned" [p. 69]. Unlike individualized test data, national assessment findings will be released to all of those interested in education. It is hoped that this knowledge will foster fuller accountability from those involved in education at all levels.

In summary, proponents of NAEP point out that the advantage to be achieved is the accumulation of dependable and differentiated national data offering new information on the youth of America. The data will be publicly available to offer help in prescriptive planning to alleviate broadly based educational problems. To nationalize educational assessment, proponents submit, will lead to better development of human resources, resulting in a more useful "Gross Educational Product" of higher quality.

CRITICISM OF NATIONAL ASSESSMENT

Responsible critics of national assessment have leveled five major charges at the program. The first and perhaps the most common charge is that NAEP will encourage teachers to teach to their test, fearing that if they do not their district will suffer by comparison with other districts [Beymer, 1966;

pp. 540-41]. Other opponents fear that such a practice on the part of teachers will lead to the control of curriculum by the test makers themselves [Fisher, 1966: p. 619; Moellenberg, 1969: p. 453].

A corollary argument to the above criticism is that, since those who are responsible for educational appropriations at the local, state, and national level will look to the results of the tests as the ultimate criteria for dispensing money, the Federal Government, by accident or design, will control curriculum by participation, even peripherally, in such a program [Saylor, 1970: p. 595]. Another even more serious fear, if well founded, is advanced in several articles, where it is suggested that the very objectives of American education will be modified in the process of national assessment. It is claimed that such a process, with its emphasis on machine-graded exercises, will place too high a value on those skills which lend themselves to scoring by machine [Moellenberg, 1969: p. 453]. As a result of this emphasis, the education of the whole child may be neglected while the school experience becomes increasingly limited in a way which will render the traditional human values of secondary concern [Spears, 1966: p. 28; Sizer, 1966: p. 22; Kraus, 1966: p. 63].

A third argument against NAEP is that the assessment, no matter how well intentioned, will produce confusing and ambiguous results [Saylor, 1970: p. 592]. Results which commonly lend themselves to misinterpretation can easily lead to unjustified but damaging attacks on the American educational enterprise as a whole [Gerberich, 1966: p. 116].

Further, some critics maintain that American youngsters are already the most tested and measured students in the world. A number of existing tests, it is claimed, evaluate American education at least as well as the proposed program of national assessment [Spears, 1966: pp. 27-28; Anderson, 1967: pp. 48-49]. Another authority has commented that many Europeans are surprised that "some critics of American education are so eager to adopt measures which they are giving up" [Grieder, 1965: p. 10].

Finally, there are those who charge that the people chosen by the Carnegie Corporation to develop the objectives of national assessment were no more qualified for that task than were numerous others, of perhaps different perspectives [Beymer, 1966: pp. 540-41]. One critic has charged that the program has been characterized by elements of secrecy on the part of those responsible for its formation [Mayer, 1966: p. 23], casting a shadow of doubt upon it from its inception.

SCHEDULE OF ASSESSMENT

To accumulate national educational data, the following is the schedule for the Cycle I testing program:

Science, writing, and citizenship exercises were administered in March 1969 and February 1970. Reading and literature exercises were administered in October 1970 and August 1971. Music and social studies exercises were administered October 1971 and August 1972. Mathematics, science, and career and occupational development (COD) exercises were administered in October 1972 and August 1973. Reading, writing, listening, and speaking exercises are to be administered in October 1973 and August 1974. Citizenship, art, and consumer education exercises will be administered in October 1974 and August 1975.

Cycle II will begin with mathematics, science, and health education exercises administered in October 1975 and August 1976. Reading, literature, and physical education exercises will be administered in October 1976 and August 1977. Music, social studies, and study skills will be administered in October 1977 and August 1978. Mathematics, science, and COD will be administered in October 1978 and August 1979. Reading, writing, listening, and speaking exercises will be administered in October 1979 and August 1980. Citizenship, art, and consumer education exercises will be administered in October 1980 and August 1981.

Schedule revisions might be necessary. And findings of tests already administered which have been evaluated will be included in later reports of test results.

NEED FOR THIS REPORT

In a survey of national assessment, presumably the question will be raised, "Why focus a report on rural schools?" Three factors conditioned this choice: (1) the problems which have already been identified in rural education from past statistics make attention and remediation efforts a matter of urgency; (2) rural education has long operated as a distinct entity with much of its data separated in a manner that makes the data ideal for comparison with current findings in national assessment; and (3) tremendous appropriations are currently being made for vocational technical education. Since vocational education is especially germane to rural and inner city groups, early assessment of national results may be helpful in establishing need priorities.

The change in the proportion of rural population and the widening gap between education in urban and rural schools became so noticeable by the later part of the nineteenth century that some educators demanded drastic curriculum changes. With the philosophy that rural education need not be second best—that top quality education is the right of every child—changes were undertaken that brought significant rural school improvement for the following 25 years. The effects of this and subsequent efforts on behavior, attitude, and needs, when related to national assessment data, should offer much that is meaningful for analysis.

Every major committee convened to study rural education has shown that, while many problems in rural schools are similar to those in urban schools, rural schools also have many problems unlike those of urban schools. Some examples of the deficiencies of rural education will support the initial thesis that remediation efforts in rural education are a matter of urgency. For instance, rural teachers in general receive far fewer supportive services for administering programs designed to meet the needs of disadvantaged pupils than do their city colleagues. Few

reports include the fact that the total size of the disadvantaged group is considerably larger in rural than in urban areas. Thus, in rural communities, the teacher's job has been made considerably more difficult by the schools' attempts to serve the emotional and physical, as well as the intellectual, needs of pupils and to relate more intimately to the community served.

In a typical rural school the teacher must be prepared to guide pupils in almost every area, for the demands of school-community relations tend to be heavier in the country than in the city. Adding to this problem is the fact that rural school patrons often resist efforts to initiate curriculum innovations and new teaching techniques. Rural schools are among the slowest changing organizations in America. They are still a main bulwark of institutionalized inequality; they reflect and perpetuate the conservative elements in our social-class and racial stratification systems [Henderson, 1971: pp. 163-73].

A further handicap of rural education is that local communities are reluctant to turn their schools over to professional educators. Trying to placate his generally conservative school board, the rural school principal frequently resists the ideal of allowing teachers and students academic freedom. Many times the rural principal must provide such guidance services as are available, and in small systems he sometimes doubles as teacher or clerk to assist his school through the academic year.

Additional evidence of the lack of sufficient funds in most rural schools is seen in their inadequate equipment, texts, libraries, and laboratory facilities. The costs for inadequate rural schools are measured in terms of such items as welfare payments, juvenile delinquency, and racism. Rural education also tends to be weak in college preparatory and vocational training courses. Continuing high unemployment and school drop-out rates among the rural population are illustrations of the failure of rural schools to prepare their students for a productive life as adults.

With such a wealth of already accumulated data, an examination of rural school results available from NAEP should afford a broad chronological base from which to view comparisons and explore solutions (see Table I). However, caution is in order—rural school patrons can take little comfort from NAEP data which show higher levels of achievement for rural students than for inner city students. Both rural and inner city students need a higher quality of education. When compared with suburban and other city students, rural and inner city students rank low. Even though rural-urban education differences tend to diminish as students get older, the gap does not disappear.

AREAS OF ASSESSMENT

Reading

NAEP exercises formulated to test reading were constructed with several objectives in mind. The contractors felt students should comprehend, analyze, and use what is read; that they should have a lively interest in reading for information and for pleasure.

In the test for 9-year-olds, students were asked to read two passages and to answer five comprehension questions following the completion of each passage. The questions were multiple choice. As students read the entire first passage, their reading rate was recorded. Next, students marked one of four choices or "I don't know." The first passage administered was a narrative story involving a boy and a dragon. The second passage, which was similar to short accounts found in a reference book or encyclopedia, gave factual information about armadillos.

Both passages for 13-year-olds were expository. The first was an essay about planting trees on sand dunes, and the second was a scientific passage regarding the flow of water. The first passage for 17-year-olds and young adults was a humorous, semi-scientific article from Reader's Digest. The second passage was a more erudite essay on the nature and development of sociology.

TABLE I

Median Percentage of Acceptable Answers on Exercises in Five Areas of the National Assessment of Educational Progress as Reported for 44 States and the Virgin Islands and Puerto Rico

	9-Year-Olds	13-Year-Olds	17-Year-Olds	Adults
Reading				
Natl. % Accept.	72.5	71.8	80.3	83.4
Extreme Rural	67.0	66.2	76.6	N.A.*
Writing				
Natl. % Accept.	28.3	55.4	62.5	58.4
Extreme Rural	21.5	47.1	59.7	52.3
Science				
Natl. % Accept.	68.3	58.4	47.1	51.3
Extreme Rural	57.8	47.5	37.3	45.2
Literature				
Natl. % Accept.	44.9	53.3	61.1	63.0
Extreme Rural	39.5	51.1	59.7	N.A.
Citizenship				
Natl. % Accept.	64.1	63.2	61.8	60.5
Extreme Rural	54.9	55.8	54.6	57.3

*Not Available

Sample of Test Questions. To test the comprehension of 9-year-olds on the story of the boy and the dragon, the following question is characteristic of those asked: (1) Who does the boy ask to find out which way his home is? A seagull (a), An alley cat (b), An old sailor (c), A passing fish (d). The national percentage of correct answers on this question was 73.3, but rural students scored only 64.7 percent. The difference between the national average and the rural rating was -8.6 percent.

About the armadillo passage, the following question is a sample of those asked: (1) Armadillo young are almost always born: During the winter (a), As identical twins (b), As identical triplets (c), As identical quadruplets (d). The national percentage of correct answers on this question was 43.6, but the rural community scored only 31.8 percent. The difference between the national average and the rural rating on this question was -11.8 percent.

To test the comprehension of 13-year-olds concerning a passage on the planting of trees on sand dunes, the following question is a sample of those asked: (1) A sand dune moves: So slowly that it never does damage (a), At a very rapid rate covering houses and forests (b), When the wind blows the trees planted on the dunes (c), When the wind blows sand up one side of a bare dune and over the top (d). The national percentage of correct answers on this question was 47.2; the rural community scored 49.7 percent. The difference between the national average and the rural community was +2.5 percent.

In the second comprehension passage for 13-year-olds—regarding the flow of water—the following question is a sample of those asked: (1) The MOST important factor in determining water run-off is: The rate of rainfall (a), The slope of the land (b), The surrounding vegetation (c), The condition of the mantle clock (d). The national percentage of correct answers was 44.9, but the rural community scored only 41.7 percent. The difference between the national average and the rural community was -3.2 percent.

Because the breakdown of exercise results furnished by NAEP for 17-year-olds and adults did not include the category "Rural Community" but instead was compiled by city size, results for this category are not cited.

Test Results. For the test data which appear in Table II, NAEP drew the following size and type of community distinctions: extreme rural, extreme inner city, extreme affluent suburb, rest of the big city, suburban fringe, medium city, and small city. A sampling of statistics of the rural community in comparison with national averages is shown in Table II to exhibit statistical sets and format.

The statistical sampling in Table II reveals at a glance that in rural areas the percentage of students who read under 100 words per minute is somewhat higher than the national average. Rural students suffer more drastically in comprehension at both extremes.

Implications for Rural Schools. In 9-year-olds assessed for comprehension, the rural youngsters rated extremely low, with only the inner city students falling below them. The results imply a need at an early age for available reading material with a broader vocabulary, for exercises designed to increase the use of more subtle and refined language, and for children to be read to by adults more frequently. It is insufficient to state that so long as most tests are verbally structured from middle-class, white, suburban language the more isolated rural students will be penalized by low standardized test ratings, unacceptable college and vocational school entrance examinations, and inferior personnel employment test ratings. The challenge to educators is to prepare all students for educational and vocational survival today—not only tomorrow.

NAEP reading test results reveal, depending upon the particular exercise, that between 75 and 85 percent of rural youngsters in the 13-year-old range read at less than 200 words per minute, in contrast with only 60 percent of youngsters from the affluent suburb group. This performance may be an indication of lack of

TABLE II

Nine-Year-Olds

Passage I: READING RATE

Words per Minute	Less than 100	100-199	200-299	300
National	36.1	54.0	8.7	0.1
Extreme Rural	38.6	56.8	4.5	0.1
Difference	+2.5	+2.8	-4.2	-1.1

Passage II: READING RATE

Words per Minute	Less than 100	100-199	200-299	300
National	33.1	51.6	11.0	4.3
Extreme Rural	33.5	49.2	13.6	3.8
Difference	+0.4	-2.4	+2.6	-0.5

Passage I: COMPREHENSION

	3 or fewer correct	4 or more correct
National	26.6	73.4
Extreme Rural	32.7	67.3
Difference	+6.1	-6.1

Passage II: COMPREHENSION

	3 or fewer correct	4 or more correct
National	68.5	31.5
Extreme Rural	74.3	25.7
Difference	+5.8	-5.8

sufficient time spent in reading. Remediation can be accomplished by apportioning more time specifically for this activity at home or at school, obtaining books more relevant to the experiences of rural youngsters to stimulate motivation, exploring the availability of reading materials and funds in the area of vocational technology, and increasing the expenditure of funds for community libraries or mobile book vans to serve the more dispersed rural populations.

Exercise data also reveal that less than two percent of the 13-year-olds from rural communities could read test passages at 300 words per minute or faster and that 17-year-olds were more than three percent below the national average. The implication here is that, unless this situation is remediated by reading clinics, speed reading courses, or some other intensive emphasis in this area, these youngsters will be severely limited by this deficiency when they secure a job or go to college.

Television as a suggested alternative has proved to be a mixed blessing to the more insulated rural student. Although it has served as an enrichment for language, it has often discouraged verbal development in other areas such as reading. Reading has long been accepted as requisite to inspired imagination. The rural student's lack of reading ability will be a handicapping factor in many job situations, and this factor can lead to an impoverishment of the personality which may have even more far-reaching effects.

Writing

The objectives developed to assess writing were, understandably, among those presenting the greatest difficulty to evaluate because of the qualitative nature of the discipline. It was announced, after reviewing the results of the first testing, that those objectives formulated initially in 1965 were not entirely adequate and have undergone revision. Those objectives which governed the first battery of tests and which are the subject of this commentary, stated that young people should write to communicate adequately in social, business, or

vocational situations; write to communicate adequately in school situations; and appreciate the value of writing.

The development of articulate and proficient writers is without question a goal of education within a literate, technically advanced society. It should be noted, however, that there is extensive transfer of oral to written forms in verbal patterns which proves a handicap to isolated or ingrown communities when they are measured by standards alien to them. Blacks, inner city, and rural communities afford three obvious examples. It is difficult to "appreciate the value of writing" when so much effort must be exerted to translate familiar feeling into unfamiliar form.

Sample of Test Questions. The writing exercise for 9-year-olds consisted of an essay. Respondents were shown a picture which they were instructed to look at for a while; the scene was a forest fire. The respondents were then directed to write a story about what was happening in the picture. They were advised the story was important because they would want people to know about the pictured, sad event.

Thirteen and 17-year-olds, in groups of approximately twelve each, were instructed to write an essay about someone they admired. The groups were allowed 30 minutes in which to compose and write their essays. National Assessment Report 8 (1972) records the following oral instructions:

> Most of us look up to some famous person as a representative of the things we believe in or as the kind of person we would like to be. This person may come from any part of our society. For instance, we might admire Winston Churchill or Martin Luther King, Walter Schirra or Mickey Mantle, Florence Nightingale or Barbara Streisand. No matter where this person comes from or what kind of work he or she does, however, we can recognize such traits of greatness as determination, physical courage, the ability to inspire others, and faithfulness to some worthy cause.
>
> Think about a famous person whom you admire. Select a particularly admirable characteristic or quality of that person—such as Mickey Mantle's courage in the face of crippling physical handicaps or

> Florence Nightingale's determination to fight against strong governmental pressure. Write an essay of about 200-250 words describing this characteristic or quality. Be sure to provide an illustration of it from the person's life. Try to show that the person is great at least partly because of this characteristic or quality [p. 8].

Young adults were asked to write a letter to a public official opposing or supporting the construction of a highway interchange for their community. Each adult wrote at home, where the assessment materials were administered, with 30 minutes allotted for assignment completion. Almost one-third of the adults requested to write declined to do so, and this reluctance is reflected in the high percentage of inferior quality papers of those who agreed to participate.

Test Results. Test results revealed that rural 9-year-olds have limited ability in the construction of sentences and restricted vocabularies. Simple sentence construction was used in most papers, and there was an inconsistency displayed in punctuation. Lower quality papers were very short with some being almost impossible to interpret.

In rural 13-year-olds the higher quality papers displayed a certain mastery of mechanics, but their expressions were limited in imagination and often conservative. Simple constructions and ideas were, for the most part, predominant in the writings. In the lowest quality essays of the rural 13-year-olds, there was an observable attempt to write by recording their spoken language.

In rural 17-year-olds, a fairly sound grasp of the fundamentals of writing was displayed, but spelling errors were numerous. The major weaknesses were simple construction, ordinary language, and unremarkable ideas.

Adult writing reflected a more precise use of words, but there was minimal punctuation, and the simple sentences used were paragraphed in terse journalistic style. The reluctance of respondents in this category to participate was reflected by a more than common number of papers of inferior quality.

Implications for Rural Schools. The comparison of the extreme rural and extreme inner city composite statistics with those of the acceptable national median reveals a wide negative variance in writing performance. The implications of this lack of ability of students to express themselves may be more alarming when analyzed than is at first apparent [Farrell, 1971: p. 1116].

The intimacy that is inclined to humanize stems from communication. When there is an inability to communicate, a sense of isolation results and a sense of the lack of power for self-assertion and self-expression that is a basic need of man is apparent. In Power and Innocence (1972), Rollo May says, "When an age is in the throes of profound transition, the first thing to disintegrate is language" [p. 65]. W. E. Auden (quoted in May, p. 65) comments that when language is corrupted, people lose faith in what is stated; and this leads to violence. Billy Budd is a case in point when at his trial, after he has killed the master-of-arms with his fist, he declares, "Could I have used my tongue I would not have struck him....I could say it only with a blow." Since communication and violence are almost always mutually exclusive, a deficiency of the former may well increase the probability of the occurrence of the latter.

Minorities of whatever kind—community, race—do not exist in isolation, and like it or not, whatever bell tolls for them tolls for us all. In the area of writing, where the psychological implication of deficiencies have been so clearly posed, rural schools and inner cities may wish to explore some dramatic measures to offset the effects of negative self-assertion that in some cases are already apparent.

Citizenship

The makers of the NAEP citizenship exercises were concerned that their assessment should mirror the achievement of nine major goals: to show concern for the welfare and dignity of others; to support rights and freedom of all individuals; to help maintain law and order; to know the main structure and functions of our government; to seek community improvement

through active, democratic participation; to understand problems of international relations; to support rationality in communication, thought, and action on social problems; to take responsibility for personal development and obligations; to help and respect their own families; to nurture the development of their children as future citizens.

By far the largest percentage of respondents in the extreme rural group resided in communities with a population of less than 2,500, and a high proportion of their parents were farm workers. Results for all ages in the extreme rural groups, using the median differences on all tested, placed the respondents about 4 percent below the national median. The largest deviation of -4.8 percent was scored by the age 17 group. This figure matched exactly the deviation from the national norm recorded for the extreme inner city 17-year-old group. On a number of citizenship exercises, however, the extreme rural and extreme inner city groups fell substantially below the national average, by 20 percent or more in some cases.

Sample Questions and Test Results. The following figures indicate how rural respondents scored on the goals cited above. On the goal, to show concern for the welfare and dignity of others: On an exercise asking whether the respondent would be willing to "accept a person of a different race in most situations," 13- and 17-year-olds and adults from rural areas scored below the nation as a whole. In the extreme rural areas, 25 to 35 percent fewer 13-year-olds indicated awareness of racial discrimination in the United States than did the extreme affluent suburb respondents. National median differences for extreme rural students on race-related questions for 13-year-olds was -7.0 percent; on nonrace-related questions it was -4.0 percent; for age 17 it was -2.0 percent on race-related questions, and -8.0 percent on nonrace-related questions; and for rural adults it was -3.0 percent on race-related questions, and -2.0 percent on nonrace-related questions. From 12-20 percent fewer extreme rural respondents said they belonged to an organization opposing

unequal opportunities than did inner city and affluent suburb respondents.

On the category, to support rights and freedom of all individuals (this goal assesses respondents' understanding of the value of constitutional rights and freedoms, and their recognition of instances of the proper exercise or denial of constitutional rights and liberties of all people uniformly): An overview of this goal shows that extreme rural and extreme inner city respondents showed the greatest deficit in relation to the nation as a whole, and the extreme affluent suburbs showed the greatest advantage. When asked whether a person on radio or television should be allowed to state three controversial beliefs: "Russia is better than the United States," "Some races of people are better than others," and "It is not necessary to believe in God," one-third fewer 17-year-olds and adults in the extreme rural group would allow a person on radio or television to make all three statements. When asked if they thought it was all right to tell other people that the Governor or President is doing a bad job, from 12 to 14 percent fewer 9- and 13-year olds in rural areas said "yes" than those in affluent suburbs.

On the goal, to help maintain law and order: Nearly 99 percent of 9-year-olds in rural groups indicated that rules are needed on the playground, as was the case with all other groups. In both the extreme rural group and the extreme affluent suburb, more 9-year-olds gave a reason why rules are needed on the playground than did 9-year-olds in the extreme inner city. About 15 percent fewer extreme inner city 9-year-olds than those in the rural areas and affluent suburbs thought adults needed rules and gave a reason. Fewer respondents in the 13, 17, and adult age groups in the rural areas stated that a dispute over money could be settled through the existing legal system than in the extreme affluent suburb respondents. Fewer adults in the extreme rural groups described an unjust or unfair law than did adults in the extreme affluent suburbs.

On the goal, to know the main structure and functions of our government: The median difference for the goal as a whole for age 9 in rural areas was -4.4 percent; for age 17 was -4.0 percent, and for adults was -5.6 percent. Those exercises on the goal above which drew more on general knowledge or experience than on information which would be learned in school showed adults in extreme rural doing as well as all other adult groups. Ninety-eight percent of the adults in all types of communities knew the name of the current president of the United States, and nearly 75 percent of adults in all types of communities could name civic groups which might want to help accomplish a project and which might want to oppose it.

On the goal, to seek community improvement through active, democratic participation: Fifteen percent fewer 9-year-olds in the rural areas as compared with the nation as a whole said they had taken part in a civic project in the past year. Sixteen percent fewer 9-year-olds in the extreme rural groups said they had taken part in two or more projects at any time in the past. In the extreme rural groups, 17-year-olds were more likely to accomplish an assigned task in a democratic group of youngsters working together than were 17-year-olds in suburban and inner city groups.

On the goal, to understand problems of international relations: On the entire goal exercises, the rural 9-year-olds ranked -5.0 percent below the median, the 13-year-old rural group ranked -6.5 percent below the median, the 17-year-olds ranked -7.0 percent below the median, and adults ranked -2.0 percent below the median. The 13- and 17-year-olds and adult respondents in the extreme rural groups showed less knowledge of wars and reasons for them than those in the extreme affluent suburbs. They were less able to name at least three countries in which fighting had occurred in the past 12 months or to give an explanation of what the fighting was about in a country.

On the goal, to approach civic decisions rationally: For the goal as a whole, the deviation from the median for the rural

community was -3.0 percent for 9-year-olds, -5.0 percent for 13-year-olds, -8.5 percent for 17-year-olds, and -4.0 percent for adults. One of the exercises assessing recognition of problems asked respondents to choose from among four alternatives the correct answer to the question, "Which one is among the greatest problems of our large cities?" The correct answer was "inadequate transportation." Seventeen-year-olds in the extreme rural group were less likely to choose this alternative than were other age groups in any category.

On the goal, to take responsibility for one's own development: The median deviation for rural respondents on this goal as a whole was -3.5 percent for 9-year-olds, -1.3 percent for 13-year-olds, -16.0 percent for 17-year-olds, and -8.0 percent for adults. Of rural adults, 20 percent fewer said they had taken lessons or courses in the last two years. Twenty percent fewer 13- and 17-year-olds in the extreme rural groups than extreme inner city 13- and 17-year-olds said they had talked about plans for education or jobs with a teacher or a school counselor. One-third fewer rural 9-year-olds than extreme affluent 9-year-olds named at least one magazine. Of rural 9-year-olds, 40 percent fewer than in the extreme affluent suburb group named at least three magazines. Of the 9-year-olds whose community had a library other than the school library, 20 percent more of the 9-year-olds in the extreme rural group than in the affluent suburbs or extreme inner city said they had been to the library within the past week. Reading scores did not reflect this.

On the goal, to help and respect their own families; nurture the development of their children as future citizens (adults): The median deviation of these exercises as a whole was -4.5 percent for 9-year-olds in rural areas; +1.0 percent for 13-year-olds; no results given for 17-year-olds; -1.5 percent for rural adults. Of 9-year-olds in all types of communities, 98 percent reported they had regular home duties. Fewer 9-year-olds in the extreme rural groups described something

they had explained to a younger brother or sister in the last six months than did those 9-year-olds in the extreme inner city and extreme affluent suburb respondents. Of the rural 9-year-olds, 15 percent fewer than extreme affluent suburb 9-year-olds said that a younger brother or sister had sought their help in answer to a tough question in the past month, and 8 percent fewer rural 9-year-olds than extreme inner city answered this question affirmatively. More adults in the extreme rural and extreme inner city groups than in the extreme affluent suburb adults said that they knew the favorite subject of their oldest child in school.

Implications for Rural Schools. It is immediately apparent from NAEP test results that extreme rural groups in all age brackets fare considerably less well on exercises designed to assess their knowledge and practice of citizenship. Extreme rural respondents do not appear to be nearly so concerned about protesting the rights of free speech and free assembly guaranteed all Americans by the Constitution as do their counterparts in most other areas of the nation. Neither do the rural respondents seem as involved in efforts either to effect community change or to work together in civic improvement as do respondents in other areas. In addition, rural groups display a woeful lack of knowledge concerning the role of the United States in world affairs and wars in which this nation may possibly become involved. This latter fact seems particularly ironic since a disproportionate percentage of American soldiers killed or wounded in the Vietnam War were whites and blacks from rural areas. Further, a limitation of rural job opportunities makes it possible that large numbers of an all-volunteer army may be drawn from rural areas.

If one is to judge by the results of the NAEP assessment exercises, the rural school is doing a seriously inadequate job in giving students formal information about the nature and goals of government at all levels. It is extremely doubtful that an individual of any age will take an interest or active part in

carrying out his civic duties if he does not know what his civic duties are. This lack of information can only lead to an ever widening gulf between rural citizens and their representatives in local, state, and national government.

A particularly startling fact is the scarcity of school counseling services available to the rural adolescent. This deprivation might lead to a lack of information and a lack of encouragement on the part of authority figures, which in turn could lead to an inability in many cases to formulate and realize meaningful personal goals. No community, rural or otherwise, can long remain healthy if a large part of its youth is unmotivated because of academic failure and feels itself defeated at the start. The consequences to the general welfare, both in terms of economics and morale, are only too apparent.

Science

NAEP exercises used to assess science were constructed with specific objectives in mind. Those responsible for formulating the exercises agreed that students should know fundamental facts and principles of science and possess the abilities and skills to engage in the processes of science. Further, it was thought that they should understand the investigative and explorative nature of science. And, finally, students should have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understanding.

Sample of Test Questions. For age 9, under Objective I, knowledge of the fundamental facts and principles of science, exercises using the following true-false questions were administered: A human baby comes from its mother's body; A stick needs to be dry in order to burn; Teeth are brushed to keep them from decaying; Iron cannot be burned in an ordinary fire; Bees get their food (nectar) from flowers; Thick, dark-gray clouds are more likely than others to bring rain on a summer day; To see something, light must reach the eye; Scientists study fossils to determine what type of animals lived long ago; The

sun and the penny are both made of atoms; and similar questions progressively more difficult.

For age 13, under Objective II, possession of the ability and skills needed to engage in the processes of science, exercises contained task instructions based on such sample statements as the following: From pictures showing three solids of the same size floating, determine which is heaviest; Interpret graphs showing the effect of different diets on guinea pigs; Use graphs and tabular data to determine the food needs of a dog; Time ten swings of a pendulum.

For age 17, under Objective III, understanding of the investigative nature of science, exercise samplings required students to do the following: Select the skill which is most useful in scientific research; Recognize that repeated measures of the same object will usually yield similar results but not exactly the same.

Young adults, under Objective IV, having attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understanding, were asked to respond to exercise statements characterized by the following: United States scientists are ahead of scientists in other countries in every field of research; If you learn about a special television program dealing with a scientific project, do you watch it? (Very few test questions have been released under Objectives III and IV, so fewer were quoted.)

Test Results. National Assessment Report 7, Group Results B, of the NAEP Science test were released in May 1973. Introductory comments recommended the exercise of caution in drawing conclusions from this data. The reason for this call for caution was strong evidence that a wide variety of factors which would significantly affect unadjusted findings and that were not measured by the NAEP exercises might be involved. Some examples of factors not measured were (1) attitude toward learning by family and peers, (2) innate intelligence, (3) state of physical health and quality of nutrition, (4) school and neighborhood

learning environment, and (5) personal attitude of student toward the relevance of education.

Since such important variables were not measured, and since what analysis attributes to some factors may be owing to other factors or variables, conclusive determination of causation cannot justifiably be made. Also, the factors which have been used are measured only in coarse subgroupings and are measured with certain margins of error.

Refining the category of size and type of community more precisely, the NAEP report on science defines "extreme rural" as students of schools where a high proportion of parents are farm workers. "Extreme inner city," too, is a more refined classification; and since there are certain statistical correlations between it and extreme rural, it is also defined here. A school was classified as extreme inner city if a student's parents were (1) not regularly employed, (2) on welfare, or (3) characterized by only a small proportion holding professional or managerial positions.

In the median effect (difference between the percent correct for the subgroup and the national percent correct), the gap between the extreme affluent suburb and both the extreme inner city and the extreme rural is the largest between community units compared. In the extreme rural subgroup comparisons, 9-year-olds test -6.3 percent, 13-year-olds test -6.1 percent, 17-year-olds test -3.5 percent, and adults test -4.7 percent when compared with the national average in percent correct. In extreme inner city, the results are still lower: 9-year-olds test -15.1 percent, 13-year-olds test -13.7 percent, 17-year-olds test -7.4 percent, and adults test -10.2 percent compared with the national average in percent correct. While both extreme rural and extreme inner city exhibit low scores by national comparison, some marked differences were noted between the two. In the 17-year-old extreme inner city, students perform relatively better in biological science, and the extreme rural students are better in physical science.

A summary chart of extreme rural comparisons for all science exercises at all four ages reveals that in 145 exercises administered to 9-year-old extreme rural students, their median difference was -6.3 percent. In 122 exercises administered to 17-year-olds, their median difference was -3.5 percent. In 119 exercises given to adults, their median difference was -4.7 percent. Despite whatever other factors and variables may be involved, extreme inner city and extreme rural as communities display significantly lower scores on the NAEP science exercises than all others tested.

While there were only a few examples of atypical performance by extreme rural respondents, some interesting examples did exist and are here cited. At the 9-year-old level, extreme rural students tested 12 points above the national level in ability to recognize an untestable statement. Adults tested 11 points above the national level in knowledge of the speed increases of falling rock. However, they tested 19 points below the national level in knowledge that adrenalin is a stimulant to the heart, and 28 points below the national level in knowledge of who proposed natural selection in evolution.

Implications for Rural Schools. Implications of the low test results of the extreme rural and inner city segments of the population are disheartening. In a culture which is becoming increasingly technological, a lack of foundation in the area of science is a seriously handicapping factor in understanding our world or seeking work within it.

An analysis of the dilemma reveals that this problem, if unremediated, becomes circular. Without the academic bases to pursue a competitive career, an inferior job is acquired, keeping the economic level of the rural and inner city population depressed. The inadequate income derived from an inferior job is a thwarting factor in pursuing post-high school vocational training and higher education for the student or young adult now, and for his children later. This results in a low level of education. Low level of education of parents has been isolated as one of the

factors which relates negatively to student achievement. And, thus, we see the dilemma perpetuates itself.

It is hoped that NAEP results will serve a purpose beyond offering a different colored band-aid for the long recognized boil of deficient and inequitable education. Diagnosis is an important part of treatment; but unless aroused rural and inner city communities make themselves heard in the surgical rooms of fund slicing, their children may continue to function at a fractional productivity that will ultimately have a negative effect on the national economy and lower personal self-esteem.

Literature

The NAEP exercises formulated to test literature were constructed with rather broad objectives in mind: that students should read literature of excellence; that they should become engaged in, find meaning in, and evaluate works of literature; and that they should develop a continuing interest and participation in literature and literary experience.

The 9-year-old group was expected to recognize children's classics such as Mother Goose, Winnie the Pooh, Child's Garden of Verses, Mary Poppins, and Dr. Seuss stories. Those students in the age 13 group were expected to recognize such works as The Jungle Book, Tom Sawyer, Charlotte's Web, and Benet's Book of the Americans. Age 17 students were expected to recognize typical passages of Shakespeare, and of authors such as Pope, Swift, Whitman, Frost, E. E. Cummings, and Keats. To be considered as having attained a "desirable level," students were expected to have knowledge of the major literary or cultural figures and themes from Western civilization. Nine-year-olds were expected to know some of the common Biblical figures; age 13 students were expected to know most of the common Biblical figures, Ichabod Crane, Rip van Winkle, Robin Hood, and the legends of Jason and Odysseus; 17-year-olds were expected to have knowledge of Hamlet, Captain Ahab, Don Quixote, and the Odyssey.

The literature exercises of the NAEP program consisted of four theme sections: (1) understanding imaginative language, (2) responding to literature, (3) recognizing literary works and characters, and (4) a survey of reading habits. Exercises covered in Themes I and II related to the objective of finding meaning in and evaluating works of literature. Theme III exercises measured achievement in the objective to read literature of excellence. Theme IV questions centered upon the objective of developing a continuing interest and participation in literature and literary experience.

Sample of Test Questions. Theme I exercises were of five kinds: missing line exercises, designed to assess rudimentary skill in following rhythm or logic (or both) in poetry; pun exercises, designed to determine ability to recognize puns in passages which may or may not contain puns; metaphor exercises, which assess recognition of tenor and vehicle of specific metaphors in poems; form similarity exercises, requiring respondents to identify similar passages and choose the genre which best describes them; and inference exercises, requiring identification of the tone or mood of a passage and a written defense of the answer.

Theme II data evidently did not lend themselves to a comparison of the various groups in the categories of Size and Type of Community.

Theme III used five types of exercises to assess different kinds of recognition of literary works. The first presented the student with a picture from a well-known nursery rhyme, story, or poem and asked him what work it illustrated. The second consisted of parodies of famous poems, for example, "The Village Blacksmith," "The Charge of the Light Brigade," and "Sea Fever," with instructions to identify the source of the parody. The third type of exercise presented the respondent with an allusion of some literary work or figure and asked for identification of the allusion. The fourth presented students with a disguised myth or story pattern and asked for

identification of its source. The fifth consisted of straightforward questions about specific figures and works of literature.

Theme IV contained two kinds of exercises. The first was formulated to determine attitudes toward literary instruction. The second kind was designed to discover how often respondents read and what types of literature they selected.

Test Results. On Theme I, the extreme rural group 9-year-olds scored -3.2 percent below the national median. On three exercises, their results were better than the national results; but on the other 15 exercises this group's percentages were always lower. The rural 13-year-olds measured -4.1 percent below the median, and the rural 17-year-old group scored -5.0 percent below the median.

Theme II comparative data by size and type of community was not furnished.

On Theme III, 9-year-olds answered 29 exercises. The median national percentage of success was 44.4. The extreme rural median difference for 9-year-olds was -5.8 percent. The 13-year-old group answered 33 exercises. The median national percentage of success was 66.5. The median difference of the rural 13-year-old group was -4.7 percent. The exercise on which this group performed best was an exercise requiring recognition of the story of Job. The 17-year-old group answered 36 exercises. The median national percentage of success was 63.2. The median difference for rural 17-year-olds was -2.5 percent. No results were available for adults in a breakdown by type of community.

On Theme IV for 9-year-olds, the national median percentage was 43.6. The rural 9-year-olds median difference was -2.1 percent. The national median response percentage for 13-year-olds was 36.8. The median difference for rural 13-year-olds was -1.2 percent. However, on the question, "Do you read for enjoyment often," the rural group's response was 12 points above the nation's results. The national median response percentage for 17-year-olds was 43.1. The median difference for rural 17-year-olds was -1.1 percent. No results

were available for adults in breakdown by type of community for Theme IV exercises. The best group performance relative to the nation on a theme by rural 9-, 13-, and 17-year-olds was on Theme IV by all three age groups.

On test results by objective, the following information was compiled. On the first objective, read literature of excellence, the rural 9-year-olds showed a median difference of -4.6 percent, rural 13-year-olds showed a median difference of -2.8 percent, and rural 17-year-olds showed a median difference of -2.5 percent. On the second objective, become engaged in, find meanings in, and evaluate a work of literature, rural 9-year-olds showed a median difference of -2.8 percent, 13-year-olds showed a median difference of -4.2 percent, and rural 17-year-olds showed a median difference of -2.4 percent. On the third objective, develop a continuing interest and participation in literature and the literary experience, rural 9-year-olds showed a median difference of -2.1 percent, rural 13-year-olds showed a median difference of -1.2 percent, and rural 17-year-olds showed a median difference of -1.1 percent. This objective was considered to be more relevant to 17-year-olds and adults than to the younger age groups.

No results were available for adults in breakdown by type of community for the above objectives.

Implications for Rural Schools. It would appear from the results of the NAEP literature exercises that, in the encouragement of their students to read, rural teachers of literature in 9-, 13-, and 17-year-old age groups are doing only slightly less well than their counterparts in other areas. An exception is the inner city schools, above which the rural schools rank in the category tested by Theme IV. It is apparent from the test results, also, that rural students spend a significant part of their time with books. This fact is also borne out by information given in another part of the assessment data which indicates that rural students visit their libraries more often than students in other types of communities in the nation.

At the same time, one feels justified in drawing the conclusion that teachers of literature in rural areas are not doing a successful job either of acquainting their students with great works of literature or in supplying them with a key to the evaluation and understanding of such universal representatives. Particularly to be noted is the sad situation of the rural 9-year-old when it comes to a familiarity with and understanding of fine literature.

It is a simple matter to assess the implications for the rural student's literary deprivation. If most extreme rural teachers are themselves products of extreme rural schools, there is the possibility that a sensitivity to great literature was not cultivated in them at an early age. It is questionable whether acquaintanceship with great literature at the university level will automatically bring with it the affective response desirable in teachers of literature. It would appear that the quality of library selection in rural areas, both in the school and community libraries, needs to be seriously reviewed and upgraded. The quality of newspapers, magazines, movies, television programs, and performing arts also affect literary expression and comprehension.

It is, perhaps, in great literature that man's highest qualities are awakened and cultivated. Affective responses to oneself, other human beings, and to all the nature and the universe are called forth through the medium of a great writer's thoughts and feelings. Often profound knowledge of and empathy with other races, other cultures, and other value systems are brought to the student by the single line of a great poet. To deprive a community of these inestimable rewards of sensitivity to fine literature is to sever it from the manifold world which comprises the life of man. An even more tragic result of such a deprivation is that men without feeling are somehow less than men in their callousness to others. If it is true that an individual defines himself by his language, then a community is at the same time characterized by its ability to express ideas and

feelings. Without a high degree of expression, meaningful communication is lost; and a community without real communication between its members is a contradiction in terms.

CONCLUSIONS

Although curriculum design and development are not a part of national assessment, "the assessment will be useful only if it provides helpful information about the progress of education that public-spirited lay citizens can understand and accept" [Tyler, 1966b: p. 239]. The responsibility for interpreting and using national assessment results resides in parents, educators, school board members, and professional organizations. Failure to improve the quality of education will have far-reaching social, psychological, cultural, economic, political, and military implications.

Social and Psychological Implications

NAEP test results have corroborated the conclusion that differences in education have resulted in social stratification. The rural community, which tests below the national average in every area, is, of course, negatively affected by an inferior education which forces its population into low paying jobs and their attendant social circumstances. Two questions arise—now that national assessment has separated problems by population, now that there is awareness—what social and psychological symptoms will appear, and how are they likely to be resolved?

Education is an academic sword that can be wielded to prune, to wound, to amputate, or, if undrawn, to let fragile minds fend for themselves. Which, if any of these, either singly or in combination is responsible for the educational plight of the rural community is a question which needs to be explored at once. If steps are not taken to assure a more egalitarian result from our educational system, our democratic social structure stands to suffer.

Should this trend continue, public school education as we know it may disappear into homebound audiovisual instruction for some, vocational training to supply increasing industrial demands for others, and a private-school intelligentsia created from the children of the elite. The middle class in our social structure would diminish in direct proportion to such public education attrition, and class polarization would become more clearly defined. NAEP results reveal a current imbalance of educational dominion that holds the psychological seeds of protest against the constraints of such proscriptive education. Socially and psychologically alienated persons in a state of social abuse revert to much in themselves that is animal. In The Face of Violence, Jacob Bronowski (1967) warns:

> The love of violence is, to me, the ancient and symbolic gesture of man against the constraints of society. Vicious men can exploit the impulse, but it is a disaster to treat the impulse as vicious. For no society is strong that does not acknowledge protesting man; and no man is human who does not draw strength from the natural animal. Violence is the sphinx by the fireside, and she has a human face [p. 6].

Cultural Implications

One is tempted from the NAEP assessment to compare the affluent suburb area school to a sun whose rays emanate with ever diminishing strength to its satellites. Nowhere is this more obvious than in those subject areas dealing with the transmission of the heritage of beauty which is ours from past ages. Refinement of language, cultivation of aesthetic response, and desire to create are all objectives which the school can and should foster in order to give each one of its students an appreciation of those values which are the glory of Western civilization. But it is more than just appreciating the past. A knowledge of the classics helps to clarify today's realities and also encourages creativity both today and tomorrow. To neglect the development of the affective responses of the young human being in a rapidly accelerating world is to invite violence, emotional disturbance, and cultural disintegration.

It would appear from the results of the NAEP assessment that many of those works of literature which have been and still are judged to be "classics" by both educational authorities and testmakers are not relevant to the experience of either the rural or the inner city student. Of the five areas examined in this paper, it is the literature assessment exercises which one is most likely to judge as culturally biased. Nevertheless, the fact remains that a sizeable portion of the American student population, for whatever reason, is being deprived of many of those aesthetic joys which are daily being nurtured in more fortunate youngsters.

While NAEP assessment test results show that the rural student may visit his library more often and may spend more free time in reading than students in other areas of the nation, it is apparent from other NAEP assessment statistics that the quality of his reading does substantially less to broaden his horizons, develop his writing and reading skills, and cultivate his aesthetic responses than does the reading matter of students in affluent suburb areas. In fact, it might be concluded that instead of contributing to his affective growth, much of his reading material makes few demands on his own thought and feeling. Worse still, most of the books he is inclined to read may give him a distorted view of the thoughts and feelings of others.

We do not need the NAEP assessment results to tell us that the average rural student's opportunities to visit a great museum, hear a fine musician, converse with an inspiring poet, or enjoy a professional drama group are far fewer than for any of his counterparts in the rest of the nation. Plato suggested that the child's education should begin with continuous experiences of the Beautiful, so that as he develops he will associate all learning with pleasure. If we seek the cause for the comparative failure of the rural child in education, we might do well to examine seriously his affective deprivation.

Economic Implications

There are few today who would question that the period since World War II in the United States has been one of ever increasing correlation between formal education and economic status. Current American history books still devote at least one chapter to extolling those native-born and immigrant citizens who became wealthy, influential, and beloved though born in humble surroundings in which there was little opportunity for more than the most rudimentary learning. That world of economic mobility is as far removed from today's reality as is the world of log cabins and prairie schooners. Yet it is largely upon these same economic myths that American public education, at least at the elementary and secondary levels, still rests.

If economic status is conditioned by formal education to an appreciable degree, then it is obvious from the NAEP assessment that the rural youngster who is inspired by such myths to rise in life competes under a crippling burden of inequality when compared to his affluent suburban counterpart. The rural child, if one is to judge correctly from the NAEP assessment, will do well if he manages to secure and hold a job commonly described as blue-collar, let alone find employment in the decreasing job market of rural America. Attempting to find work which will allow him to rise above his parents economically and to give his children certain fundamental benefits, he starts at a place on the educational ladder often only very slightly above that of the inner city inhabitant. In the struggle for upward economic mobility, he will begin, whatever his native gifts, at an educational disadvantage when compared to those in small city, medium city, suburban, rest of big city, and extreme affluent suburb groups.

It would appear from the NAEP assessment that it is more likely the average rural youngster will become a migrant worker than a computer programmer, and far more likely that he will work for someone else than manage his own business or pursue a profession. The prospects for his children cannot be much

brighter and may be even more bleak. At a manifest disadvantage in the skills of reading and writing, relatively untutored in basic science, and less interested in civic matters than most others, he has become an institutionalized failure.

Political Implications

Political writers and commentators never tire of telling the American people that true democracy rests with an informed public. If this is true, the NAEP assessment should make us anxious about the future of representative government. Below the national average in reading, the rural student, one may conclude, is less likely to read those publications which can bring him the facts to enable him to make informed political decisions and to work for governmental change. Deficient in writing skills, he can be expected to write few, if any, letters to his local newspaper to draw attention to a problem which affects his life and the lives of his children. Less concerned with civic participation than most and willing in an alarming number of cases to deny others their constitutional liberties, the average rural respondent, to judge by the NAEP assessment, is a predictable target for the political candidate who promises simple solutions to complex problems. The uneducated and uninformed tend to allow others to analyze, synthesize, and make political decisions and opinions for them.

The individual citizen who is unaware of his rights or too unschooled in political techniques to protect them is obviously vulnerable to others who seek to manipulate him. The key to participatory democracy is found in traditional political channels; yet, if these channels are not used by certain segments of our population because of lack of knowledge, the concept of democracy is at best an unfulfilled dream. Unable and unwilling to become involved in the democratic process, the rural inhabitants are more likely than their counterparts in most other areas to leave untapped their collective powers which, when exercised properly by them as individuals, could lead to more control of their local, state, and national governments.

The NAEP results can serve as a caution that in education all elements of our society are not being adequately served and can define those elements so that local and state agencies can seek remediation. In a democracy where an informed constituency is requisite for stable self-government, the political implications of neglecting population pockets can readily be seen. Demagoguery, not democracy, is served by an educational system that fails in the instruction of its young. The rural pariahs of education today, as identified by NAEP, could well become the activistic malcontents of tomorrow. Those of opposing political persuasion will not ignore this data, nor dare we.

Rabindranath Tagore (1966) said, "Power takes as ingratitude the writhing of its victims" [p. 245]. National assessment is serving the purpose of identifying educational victims; let us hope that we do not take the mistaken attitude of power.

Military Implications

An overall examination and synthesis of the NAEP data reveal that some serious military consequences may inhere. One vital force of a national government is the military troops that protect it. Test data from our armed forces have long indicated that large numbers of American young men and women are denied an opportunity to serve because of academic deficiencies, often when other forms of employment are not open to them. NAEP reports verify how profoundly true this is for those dwelling in rural communities.

The rural 17-year-old, in comparison with the national median percentage for acceptable answers, rates as follows: -3.7 percent in reading, -2.8 percent in writing, -9.8 percent in science, -1.3 percent in literature, and -7.2 percent in citizenship.

At the local level, the test results imply that a military career is not available, because of educational deficiencies, to those who, by desire or because they lack other options, might choose it. At the national level, the verification by NAEP

of the rural community's unacceptable academic rating has implications that are twofold: (1) the army will not be proportionately representative of national population elements, and (2) such exclusion of particular population segments tends to stratify or create caste grooves that are detrimental to a democracy.

BEYOND NATIONAL ASSESSMENT

The Education Commission of the States (ECS) has agreed to serve—at the invitation of school districts—as consultant for state assessments. In this way, local school districts can hold school-community study sessions and use ECS staff to interpret local, national, and regional results, as well as to provide guidance in constructing local assessment materials.

The national assessment data can help teachers determine whether or not their expectations of educational attainment are being met on a local, regional, or national level. However, at no time should teachers feel obligated to restructure their lesson plans to accomodate national assessment test items.

Basic to improving the quality of rural education is the ability to focus on early childhood education and to recruit and retain competent teachers. Furthermore, parents must become more involved in the entire educational process—including curriculum evaluation.

On the basis of the assessment data collected to date, several recommendations seem appropriate. First, school districts should create skill laboratories in which students are shown a clear need to learn a specific skill. Second, classroom activities should be structured to provide opportunities for communication. All teachers should encourage their students to use and develop their speaking, reading, and writing abilities. Each teacher should have frequent conferences with students and parents, on an individual basis. And finally, within the classroom major emphasis should be placed on people and ideas in literature rather than on the mechanics of construction.

The rural school is an ideal place to test new educational theories; it can be a laboratory for innovators. Indeed, the task of improving rural schools may be easier than that of improving big city schools. For instance, because of their size most rural school districts are able to quickly revise class schedules. Similar changes are more expensive in big city schools that must resort to computers for system-wide changes.

Henderson (1971) has noted the following practices in the more effective rural schools: "activities which allow students to proceed at their own pace; team teaching where two or three teachers with various specialties share classes, enabling students to have the benefit of many teachers' skills; use of teacher aides, which frees teachers from clerical tasks; multiple class teaching, in which two or more related fields are taught at once; and shared services, where several schools share supplies, teachers, and equipment. A few of the more progressive schools have shifted to flexible scheduling and modified self-instruction so that learning is student-centered instead of teacher-centered" [pp. 237-38].

More state and Federal funds can improve rural schools; but the lasting and more qualitative change must be accomplished by students, teachers, administrators, and parents committed to a top quality education. In the end, the issue is not whether our schools will be assessed for educational achievements but whether we will use the assessment to build better schools.

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